

4th Annual Fort Carson Community Sustainability Conference

November 9, 2005



Biodiesel Overview

Biodiesel is a cleaner-burning, renewable, and domestically produced diesel fuel

- ➤ Biodiesel is primarily sold as a 20% blend with 80% regular #2 diesel (B20)
- ➤ U.S. Congress designated B20 as an approved alternative fuel in 1998
- ➤ Biodiesel can be made from various oils, including canola, mustard, soybean, corn, and even waste grease.
- Best energy balance of ANY fuel!



KNOW YOUR SOURCE!



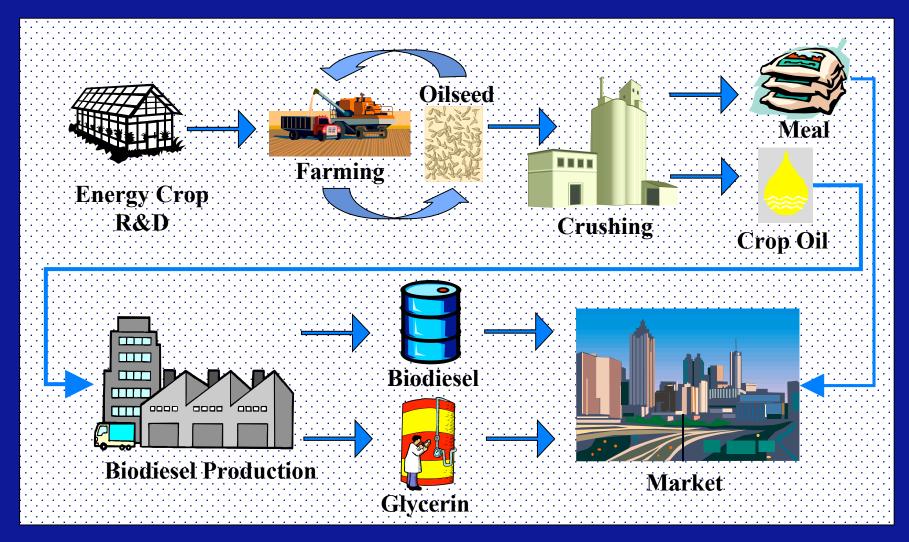
Blue Sun Mission

- Highest Performance Fuel
- Rural Economic Development
- Energy Independence
- Cleaner & Healthier Air





Farmer to Fuel Tank





High Plains





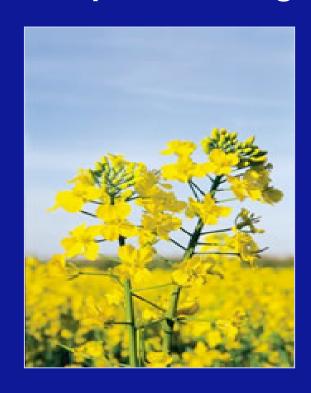
Blue Sun Crop R&D

The development of a lower cost, higher yielding oilseed feedstock is a prime strategic objective

Lower cost

- Lower input costs
- Require much less water
- Lower land costs
- Higher oil content





Higher quality

- Higher lubricity
- Higher cetane
- Better cold flow properties
- Better oxidative stability



To develop a sustainable competitive advantage vs. soybeans and any other potential feedstock



Blue Sun Biodiesel Requires World Class Processing

(3-million gallons per year)

Continuous flow processing meets ASTM and DIN biodiesel fuel specifications





Large-scale Biodiesel Production 25-million gallons per year

World-class technology involves process guarantees, continuous flow reactors, methanol recovery units, and more.





Blue Sun Blending Facility Alamosa, Colorado

- Ratio blending
 - Computer controlled accuracy
 - Thorough blending in pipe before entering truck
 - 100% automated
- Pressurized additive injection
- Heated biodiesel and additives
- 600 gallon per minute loading
- Operating 24 hours per day
- Serving Southern and Western Colorado and New Mexico









Blue Sun Advantages: A Better Fuel vs. Diesel

Features

- Higher cetane 48+
- Greater lubricity
- Superior detergency
- Higher flash point

Blue Sun B20 Benefits



- Improved Fuel Mileage
- Equal or Better Horsepower
- Less Black Smoke
- Smoother Running Engines
- Quicker Cold Starts
- Longer Engine Life 40%
- Reduced Maintenance Costs



Blue Sun Advantages Cleaner Emissions vs. Diesel

- 15.7%

Emission Type	<u>B 100</u>	Typical B20	Blue S
Carbon Monoxide	- 43.2%	- 12.6%	- 32
Hydrocarbons	- 56.3%	- 11 %	- 40
Particulates	- 55.4%	- 18 %	- 24
Nitrogen Oxides *	+ 5.8%	+1.2%	- 4
Carcinogens	- 60% - 90%	- 12% - 20%	
Mutagens	- 80% - 90%	- 20%	

Carbon Dioxide **

Source: National Renewable Energy Laboratory, Golden, Colorado (NREL), a national research laboratory funded by the Department of Energy

- 78.3%



- 32 %

- 40 %

- 24 %

- 4 %



^{*} Blue Sun B20 will reduce Nitrogen Oxides by 9% or greater

^{**} Life Cycle emissions of CO2





Blue Means Go

Go Farther

with a fuel that increases mileage, power and engine life

Go Stronger

with a fuel that reduces our dependence on foreign oil

Go Cleaner

with a fuel that dramatically reduces emissions

Go Smarter

with a renewable fuel grown on regional farms

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